



AME Licencing and ICAO AME Competency Based Training

Proposal: Transfer current AME training into the new ICAO CBT AME training system.

Issue 1: CASR Part 66 modular licencing system introduced in 2011 is based on a 75% knowledge pass mark for each module whereas Australia's NVET training system is a "competency based training system" (Student having the knowledge/practical skills are assessed as "Competent"). ICAO last year promulgated an AME Competency Based Training system that is compatible with Australia's NVET CBT system.

Issue 2: That CASA follow EASA's lead and set up a Rule Making Task team of CASA/Aerospace IRC committee to **review and implement** ICAO Doc 10098 'Manual on Training of Aircraft Maintenance Personnel' (*once the document is finalised by the ICAO Competency-based Training and Assessment Task Force (CBTA-TF)*).

These two issues also have subsets that need urgent attention to bring back confidence in the training, skilling and competence of aviation tradespersons. Australia's competency based training system has never produced a satisfactory outcome for the modular system partially adopted by CASA from the EASR Part 66 licensing system.

Recommendation:

That CASA immediately set up a special rule making committee to identify the changes required to adopt the ICAO CBT for AMEs that is compatible with the NVET CBT system.

Amplification

Issue 1

Trade Competencies

The government listed a **Difference to Annex 8, paragraph 6.6.4** (without specifying 6.6.4 – see page 4) and has not established the competence of aviation maintenance personnel. Annex 1, standards for maintenance personnel are now contained in ICAO Document *The Manual on Training of Aircraft Maintenance Personnel (Doc 10098)*

Note: The Manual on Training of Aircraft Maintenance Personnel (Doc 10098) contains guidance material on the design and development of a training programme for aircraft maintenance personnel.

This recommended Doc is now mentioned in the latest amendment of Annex 1.

ICAO AME skill training standards were once promulgated by the Department of Transport prior to the establishment of the CAA based on the previous ICAO Doc 7192, Part D-1. The Education Department's Registered Training Organisations pre CAA used this ICAO based promulgation to provide national training standards for each State's aircraft maintenance engineer trade training apprenticeships.

“Annex 8. 6.6.4 The maintenance organization **shall** establish the competence of maintenance personnel in accordance with procedures and to a level acceptable to the Contracting State granting the approval.”

Q 1: How does an AMO establish competence of personnel if government no longer promulgates the level of competence?

Q 2: How does the NVET system produce competency based trade training courses without the ICAO Doc being promulgated by CASA or reference to the Doc in Regulations or Manual of Standard?

AMROBA has been aware of the ICAO team working on the competency based standards for many years. CASA has participated in the development of these new competency standards. ICAO created the change to Annex 1 because so many countries had adopted competency based training to replace the theoretical/practical skill training of the past.

Australian Industry Standards Project

The AIS Aerospace IRC is still trying to develop a modular CBT training package, at on-going cost of government/industry resources, that meets CASA's demand for a 75% pass mark & the NVET CBT criteria. The non-airline sectors have been requesting this since CASA partially introduced the EASA AME licencing system in 2011. CASA and the Australian Skills Quality Authority (ASQA) training principles and criterion are not compatible.

Neither Regulator has been willing to change so training to meet industry needs has suffered

Licencing Competencies

This is separate to the competency training standards for the AME licence. ICAO last year promulgated competency based training standards for AME licence holder. These competency based training criteria is more compatible with Australia's NVET training standards.

The Europeans introduced a knowledge based examination system for the same reason that CASA's predecessors introduced Basic Examinations many years back. It was to ensure that the trade training in each State and Territory of Australia met a pre-determined training standard. CASA is still providing this pathway to a Part 66 licence for the non-airline sector.

Why? Because CASA has not adopted the full EASR Part 66 standards that were updated to take into account the licencing needs of the non-airline industry.

Complications

Adoption of the latest ICAO AME licence holder competency standards will overcome a massive issue for Australia's education system where the current AME licence knowledge based NVET training actually replaced AME trade training competencies.

ICAO's new AME licencing competency standards are based on; 1. Perform Testing Fault Isolation; 2. Perform Disassembly; 3. Clean; 4. Perform Inspection/Check; 5. Repair; 6. Perform Assembly; and 7. Perform Storage (Transportation).

Cost Savings.

Major savings can be made with adoption of the latest ICAO AME Competency Standards.

It would enable the current Aerospace IRC review of the current system to be put on hold until a CASA led review team looked at what regulatory changes would be required to be compliant with Annex 1, Chapter 4's recommended formal competency based training.

Massive costs can be saved if CASA adopts the ICAO new Annex 1 AME licence Competency Standards compatible with the NVET CBT system. ICAO states it supports licencing.

This may be the answer to fix current deficiencies with the aviation maintenance NVET system.

Issue 2

One thing that EASA does do correctly is to review and amend their regulations to address industry raised issues and ICAO changes. Instead of waiting for EASA to make changes to Part 66 and then wasting years before our CASR Part 66 may be updated to include their amendments, we suggest that CASA create a Rule Making Task committee in association with the Aerospace IRC to implement the AME licencing ICAO Doc 10098 'Manual on Training of Aircraft Maintenance Personnel' as soon as ICAO promulgates the Manual.

Past EASR Part 66 Changes

CASA hasn't yet adopted the last amendments to EASA's Part 66 that added "group ratings", a 'B3 rating for GA aeroplanes', a B2 Light avionics rating for GA and additional licencing for "sport/recreational aircraft".

So why would anyone have confidence in CASA's ability to adopt any future amendments to EASA Part 66.

These ICAO/EASR changes would alleviate most of the current maintenance personnel issues.

EASA Rule Making Task (2021)

[Part of identifying changes to adopt CBT, the EASA identified issues with their EASR Part 66 are the same issues that are being experienced in Australia.]

"EASA has set up a Rule Making Task committee to revise their Part 66 to address:

- difficulty in meeting the objectives of the Part-66 and Part-147 in some cases, such as the required OJT, and in updating the content of the training courses in relation to technological evolution or aircraft for which there are no courses available (e.g. legacy aircraft); duplication of efforts due to less efficient processes, as training courses and OJT approved by a competent authority are not mutually recognised by other competent authorities;
- reduction of the efficiency of some processes due to the lack of courses covering specific commercial cases; and
- high impact on the credibility of the maintenance training system due to fraud cases and, in some cases,
- type rating endorsement for "legacy aircraft";
- on-the-job training (OJT);
- deficit of practical skills of maintenance personnel; and
- obsolescence of the Basic Knowledge (BK) syllabus"

Reference Docs include:

- ICAO Doc 10098 'Manual on Training of Aircraft Maintenance Personnel' as soon as ICAO promulgates this document.
- ICAO State Letter: AN 12/48-20/33 Approval of Amendment 7 to the *Procedures for Air Navigation Services - Training* (PANS-TRG, Doc 9868)
 - a) Implementation of the amendment on 5 November 2020;
 - b) Publication of any difference as of 5 November 2020

State Letter AN 12/48-20/33:

1.1. Essential steps to be followed by a State in order to implement the amendment leading to consequential changes that will be reflected in the next amendment to the PANS-TRG:

- a) *familiarize relevant oversight personnel with the amendment;*
- b) *conduct a gap analysis between the new ICAO provisions and national regulatory framework;*
- c) *identification of the rule-making process necessary to transpose the new ICAO provisions into national regulations, where necessary;*
- d) *plan the necessary modifications to the national regulations and means of compliance; and*
- e) *initiate first phase of the new provision*

Note: A CASA tasked committee to identify regulatory change to comply with the latest amendment to Annex 1 will help correct the AME training system.

Background

Ever since CASA introduced the EASA based Part 66 *Aircraft Maintenance Engineer* Licence in 2011, the National Vocational Education Training (NVET) System has been unable to provide NVET Competency Based modular courses to support the CASR Part 66 modular licencing system. The current VET training courses have been tailored to support the airlines and is not compatible with the non-airline and helicopter industry.

Because of the lack of confidence, outside the airline sector, in the current AME licencing system, most non-airline AMEs have been accessing the previous CAR 31 AME licencing examinations pathway that CASA has continued since repealing CAR 31 in 2011.

Confirmation of the failure to implement the adopted EASR Part 66/147 into Australia's government compulsory CBT system.

NB: The Part 66 licencing knowledge based modules have a pass mark of 75% that is not compatible with NVET CBT criteria or competency assessment.

- NVET CBT system assesses a student as either '**Competent**' or '**Not Competent**'.
- CBT is industry supported in Australia.

NVET CBT was introduced in Australia in the late 1980s and CASR's previous AME licencing system was one of the first to adopt the government's competency based training for avionic and mechanical AME training pathways.

- CASA independently provided knowledge-based "Basic Examinations" at 75% pass mark to obtain an AME licence. A cost effective system that produced skills and experience.

Australia's Annex 1, Chapter 4, AME Licencing Differences in Yr2000

4.2.1.2	There is no knowledge requirement for human performance and limitations.
4.3.1.1	Minimum age is 18 years
4.3.1.2, 4.3.1.3,	There is no regulatory requirement governing the experience and the knowledge requirement, but
4.4.2.1, 4.4.2.2.	actual practice is in line with ICAO requirement

Australia's Annex 1, Chapter 4, AME Licencing Differences in yr 2020

Annex 1 Chap 4, Reference	State Reference	State Difference
Adapted competency model	Nil	This definition is not currently defined in Australia's legislation
Competency	Nil	Definition applies to ATS personnel licensing only.
Competency-based training and	Nil	Not implemented in legislation
Competency standard	Nil	Definition not implemented in legislation
ICAO competency framework	Nil	Definition not implemented in legislation
4.2.1.4	CASR 66.020 & 66.025 CASR 66.080, CASR PART 66 MOS - 66.A.25, 66.A.30 & 66.A.45 and Appendices I, II, III & IV	Australia has a national competency-based training and assessment model for aircraft maintenance personnel. CASA does not provide specific guidance material on the design and development of training programs for aircraft maintenance personnel. All training packages are developed and designed to be encompassed into nationally recognised qualifications that are aligned to the Australian Qualifications Framework.